

CHALLENGE MAGNETIC GAME**BACKGROUND INVENTION**

This invention refers to a magnetic game designed to be played by two or more challengers, comprising a game board and a plurality of game members magnetically and selectively anchorable to one another and to the game board in
5 correspondence with spaced apart anchoring points.

STATE OF THE ART

Well known magnetic games, designed to allow the construction of reticular or grid structures, substantially comprise a set of elongated or bar shaped
10 members, and a set of ball members which are magnetically connectable to the bar members according to any planar or spatial configuration or disposition; such magnetic games are known for example from WO-A-99/60583, DE-A-39 10 304 and US-A-2.970.388.

Even though they allow the construction of reticular or grid structures of
15 various shapes and sizes, these games however have a specific use, which is an end in itself.

None of these documents describes or suggests a different use of said magnetically anchorable members for other types of games, for example for games suitable for carrying out competitions between two or more players or
20 challengers, in a way comparable to the conventional games of checkers and chess, or other similar games.

OBJECTS OF THE INVENTION

Therefore, the main object of this invention is to provide a magnetic game allowing to carry out competitive actions between two or more challengers,

whereby it is possible to use in a new and different way certain magnetically anchorable members of known games, shown for example in the aforementioned documents.

A further object of this invention is to provide a magnetic game of the
5 abovementioned kind, which is extremely varied and stimulating in a competition, which can be played according to specific schemes and rules, and which at the same time is easy to play.

A further object of this invention is to provide a magnetic game, as mentioned above, which is composed of a few base pieces, of limited cost.

10 A still further object is to provide a magnetic game as defined above, by which it is possible to adopt different game strategies and develop the skills of the players, stimulating their logical reasoning during the competition, and presenting different difficulty degrees in relation to possible different ways of playing the game.

15 BRIEF DESCRIPTION OF THE INVENTION

The above can be achieved by means of a magnetic game according to claim 1.

More particularly, according to the invention a magnetic game has been provided, said magnetic game including a number of bar-shaped and ball-
20 shaped, magnetically anchorable game members, characterised by comprising:

a magnetic game board having a playing surface and a plurality of magnetic anchorage points spaced apart on said playing surface;

a first set of bar shaped members and a second set of ball shaped members;

said bar shaped members and said ball shaped members being conformed and magnetically anchorable to each other to construct at least a first and a second articulated body assembly;

each of said bar members of the articulated body assemblies being selectively engageable to a ball member of the same body assembly and/or to an anchorage point of the playing surface to change the shape and to move each of said articulated body assemblies on the game board.

The anchoring points may be differently arranged and disposed at a constant pitch or pitches of pre-established values, on the playing surface of the game board, depending on the requirements.

The game board, the elongated or bar shaped members and ball shaped members which make up the game, can be variously composed; for example the game board can be composed of a metal panel in magnetically conductive metal material, such as a sheet of plastic material comprising an iron powder filler, or can be composed of a reticular metal structure shaped in such a way to provide anchoring areas in correspondence of the various anchorage points for the magnetic bar members of the game.

As an alternative to the use of a simple magnetic metal sheet, or a reticular magnetic structure, the game board can have a layered structure or can comprise magnets or ferromagnetic inserts in correspondence with the various anchorage points.

In turn, the game members, both in the shape of balls and bars, can be appropriately magnetised that is to say they can comprise or be composed of permanent magnets, or can be composed of simple ferromagnetic pieces.

Moreover, the playing surface of the game board can be divided into several playing areas or sectors according to requirements, for example by means of graphic signs or different colours, or by other suitable means.

The anchorage points for the game members on the game board, can be
5 differently disposed in correspondence with the intersection points of any reticular design having polygonal meshes, preferably but not exclusively square meshes, or along a reticular design composed of a plurality of circles concentrically or differently arranged on the playing surface of the game board; regardless
10 of the shape of the reticular design, the length of the pitch or pitches existing between at least part of the anchorage points may be equivalent to the sum of the diameter of the ball shaped members and of the axial length of the elongated bar shaped members, measured along their longitudinal axis, or more in general
15 equivalent to the space between the centres of two adjacent ball members between which a bar member is disposed in the construction and movement of the articulated body assemblies.

According to a preferential embodiment, the game board can have a central playing area, and peripheral zones marked with starting positions for the various bar and ball shaped members of the articulated body assemblies.

BRIEF DESCRIPTION OF THE DRAWINGS

20 These and further features or possible embodiments of the magnetic game according to the invention, will be more clearly evident hereunder with reference to the accompanying drawings, in which:

Fig. 1 shows a perspective view of a game board and articulated body assemblies;

Fig. 2 shows a top view of the game board of fig. 1;

Fig. 3 shows an enlarged view, along the line 3-3 of fig. 1;

Fig. 4 shows an enlarged detail;

Fig. 5 shows a detail of the game board according to a further embodiment;

Fig. 6 shows a top view of a further embodiment of the game board.

DETAILED DESCRIPTION OF THE INVENTION

As shown in the various figures, the magnetic game according to the invention comprises a game board 10, for example octagonal in shape, provided with a plurality of anchorage points 11 appropriately marked for magnetically anchoring a number of elongated or bar shaped members of the game described further on; for the purposes of this description, the term "magnetic" is understood to mean the magnetic property of any magnetically-active element or material, such as a magnet, or a member of the game comprising a magnet, or a ferromagnetic member or material that can be temporally magnetised by induction of a magnetically-active element of the game.

In the example of fig. 1, the board 10 comprises a playing surface having a central playing area 12 surrounded by a peripheral area 13 for the initial positioning of the various game members at the starting of the game.

However, the game board 10 may be of any appropriate shape, divided into one or more playing areas or sectors, or composed in any way; likewise, the anchorage points 11 for the game members can be marked in various ways, according to any pattern, in which the anchorage points 11 are in correspondence with intersection points of any type of a reticular structure or design.

In the example of fig. 1, the marked anchorage points 11 for the game members are disposed in correspondence with the intersection points of a lattice or reticular design disposition having square meshes, or along parallel rows according to two crossed directions, in which the pitch P between the various anchorage points 11 is constant and equivalent to the space between adjacent intersection points of the reticular disposition.

The design disposition of the anchorage points 11, can be of any type or shape, or of the type in which the individual anchorage points 11 are angularly spaced apart from one another along circular paths of a pre-established radius, variously distributed over the game board 10, and in which the peripheral anchorage points along each circle are spaced apart from one another by any distance, while they are spaced apart from each other by at least one pre-established pitch as will be explained further on with reference to the example of fig. 6.

The magnetic game according to this invention also comprises a first set of elongated game members 14, 14', for example in the form of bars, and a second set of ball shaped game members 15, in which each of the bar members 14 is magnetically anchorable between two ball members 15, while the bar members 14' are magnetically anchorable between a ball member 15 and an anchorage point 11 of the game board to form for example a sort of "caterpillar" A and B having an articulated body composed of several segments, for example consisting of a succession of bar shaped members 14 and ball shaped members 15, as shown in figures 1 and 3.

The body of the caterpillar thus composed, also comprises a plurality of

"legs" 14' for anchoring it to the game board 10, wholly corresponding to the bar members 14 of the body; the bar members 14' extend between each ball member 15 and a respective anchorage point 11 on the game board 10.

The articulations between the various members 14 and 15 of the body,
5 and the legs 14', as well as the possibility of selectively disengaging the magnetic engagement both between the various members 14 and 15 of the body, and of the legs 14' from the ball members 15, and from the marked anchorage points 11 of the game board during a competition, enables the various challengers to freely and variously move the caterpillar or articulated body assemblies A,
10 B on the game board 10, by selectively disengaging and re-engaging the various elongated or bar members 14, 14' which make up the articulated body and the legs of each "caterpillar", in respect to the ball members 15 and the various marked anchorage points, in relation to specific requirements in compliance with given rules of the game.

15 The game board 10 can be composed in any suitable way to allow the magnetic anchorage of the game members 14', in correspondence with the various marked points 11.

For example, as shown in fig. 4, the board 10 can have a layered construction comprising an intermediate layer 16 consisting of a ferromagnetic sheet
20 material, a bottom protective layer 17 of any suitable material, such as wood, plastic, fabric, cardboard or other non-magnetic material, and an upper layer 18 defining the game surface 13, also composed of any non-magnetic material in the same way as the bottom protective layer 17.

For the purpose of providing the necessary markings in correspondence

with the anchorage points 11 for the bar shaped members 14', in the example shown in fig. 4 the upper layer 18 is provided with a plurality of holes 11 of larger diameter than the bar members 14', to enable them to come into contact with the ferromagnetic layer 16.

5 As an alternative to the solution shown in fig. 4, the game board 10 can be composed in any way, provided it is suitable for the purpose, and the anchorage points 11 also can be marked in any way.

For example, the upper layer 18 may even be omitted, in which case the sheet 16 of magnetic material, appropriately treated to prevent it from oxidising,
10 can be marked for example by printing symbols, circles, disks or the like in correspondence with the various anchorage points 11.

According to another embodiment, shown in fig. 5, the board 10 may be composed of a panel 19 of wood, plastic material or other non-magnetisable material, into which disk shaped members 20 of permanent magnets or ferromagnetic inserts are incorporated in correspondence with the anchorage points 11 of
15 the game board 10; other solutions are obviously possible.

Therefore, depending on the composition of the board 10, and however the various anchorage points 11 have been marked, the magnetic game members 14, 14' and 15 may be selectively and differently engaged and moved on
20 the board 10.

For example, in the case of the board 10 of fig. 3 or equivalent solutions, the elongated game members 14 and 14', in the form of a cylindrical or polygonal shape, may consist of a single permanent magnet, or may comprise one or more magnets and a ferromagnetic member, as described in WO 99/60583 or in

DE 39 10 304.

In the case in which the ball members 15 consist of or comprise a magnet, and in the case the game board 10 comprises permanent magnets 20 in the anchorage points, it is also possible to form the elongated game members 14 and 14' in the form of simple bars of ferromagnetic material.

In order to allow an ample articulation movement between the various game members 14, 14' and 15 which compose the body and legs of the "caterpillar", or the articulated body assembly, it is preferable for the ball members 15 to have a diameter D equivalent to or larger than the diameter or the cross section of the elongated bar members 14, 14' measured in correspondence with the contacting surface areas between the game members 14, 14' and 15 of the game. Moreover, in order to allow a selective articulated movement over the game area, it is preferable for the sum-total of the diameter D of each ball member 15 of the game and the length of the elongated bar members 14 and 14', measured between the opposite extremities along their longitudinal axis, to be equivalent to a pitch P existing between the centres of adjacent anchorage points 11 of the game board.

Figure 6 of the attached drawings relates to a further embodiment of the game board 10; differently from the game board 10 of figure 2, in figure 6 the anchorage points are arranged along circular paths 21, differently intermeshing or crossing on the playing surface of the game board 10.

As shown in the example of figure 6, the anchorage points 11 on a same or different circles may be spaced apart of a same or different pitches; more properly, some anchorage points 11 on all circles are spaced apart by a first

pitch P1, corresponding to the radius of curvature of the same circle 21, that is the distance between the central anchorage point 11A of the circle 21, and the peripheral anchorage points 11.

According to the disposition and dimensions of the circular paths 21, some anchorage points 11 on different circles may be spaced apart by a second pitch P2 smaller than P1, while some other anchorage points 11 in the crossing points between circles, may be spaced apart from the adjacent anchorage points by a third pitch P3 smaller than the previous ones.

In general terms, depending on the path design, the anchorage points 11 of the game board may be spaced apart from each other by one or more correlated pitches.

From what has been described and shown in the accompanying drawings, it is understood that a magnetic game of a completely new kind has been provided, which enables two or more players to compete with one another simultaneously, thereby making the game itself extremely stimulating and interesting.

According to another feature of the magnetic game, the board 10 along at least two opposite edges can comprise some anchorage points 11' and markings indicative of the initial positions of the game members 14 and 15 which make up the body assembly. In addition to the game members for composing the assembly, the game may also comprise supplemental magnetic game members 14", 15" to be positioned and/or moved over the game board in relation to given rules of the game.

It is understood however that what has been described and shown with reference to the accompanying drawings has been given purely by way of ex-

ample to illustrate several possible embodiments both of the game board 10 and of the game members 14, 14', 14'' and 15, 15''; therefore, both the game board 10, the marked anchorage points 11, as well as their disposition, and the magnetic game members, may also be differently shaped, while still falling within the scope of the accompanying claims. Moreover, the body of the caterpillar or equivalent articulated body assembly, may be composed of any number of game members, starting from a minimum comprising only two ball members 15, an elongated bar member 14 disposed between the two ball members, and two bar members 14' for anchorage to the game board.